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## EDUCATION

2005      Ph.D., Geological and Environmental Sciences, Stanford University, Stanford, CA  
 1998      B.A., Geology, Carleton College, Northfield, MN

## PROFESSIONAL EXPERIENCE

2008-present    Research Geologist, U.S. Geological Survey, Menlo Park, CA  
 2006-2008      Mendenhall Postdoctoral Research Fellow, U.S. Geological Survey, Menlo Park, CA  
 1999-2005      Teaching Assistant, Lab Manager, and Instructor, Stanford University, Stanford, CA  
 1998-1999      Earth Science Intern, U.S. Geological Survey, Menlo Park, CA

## RESEARCH INTERESTS

Cenozoic tectonic and magmatic evolution of the northern Basin and Range Province  
 Neogene tectonics of the central California Coast Ranges  
 Formation and eruption of large silicic magma chambers  
 Apatite fission-track and (U-Th)/He thermochronology  
 Geologic mapping and regional structural analysis

## SERVICE TO THE SCIENTIFIC COMMUNITY

2005-present    Peer Referee: *GSA Bull.*, *Geology*, *Geosphere*, *Jour. Geophys Res.*, *Jour South. Amer. Earth Sci.*, *Int. Geol. Rev.*, *Tectonophysics*, NSF (Tectonics, Geophysics, Petrology & Geochemistry, and Continental Dynamics programs), USGS internal reviews, Nevada Bureau of Mines and Geology geologic map reviews.  
 2011            Field trip co-leader (with C.D. Henry and A.J. McGrew), "Timing, distribution, amount, and style of Cenozoic extension in the northern Great Basin," May 20-23, Wells, NV.  
 2011            Co-convenor (with C.D. Henry and A.J. McGrew), "From contraction to extension: The Mesozoic to Cenozoic tectonic evolution of the northern Great Basin I" (oral & poster session): Geological Society of America Cordilleran Section Meeting, May 18-20, 2011, Logan Utah.  
 2011            USGS Research Grade Evaluation (RGE) Panel member.  
 2009            Field trip co-leader (with D.A. John and C.D. Henry), USGS field trip, Caetano caldera.  
 2009            Field-trip co-leader (with S.L. Klemperer), Stanford Geophysics, northern Nevada.  
 2007            Field-trip co-leader (with K.A. Howard), Ruby Mountains core complex, Nevada.  
 2005            Co-convenor (with P.G. Resor), "The Edges of Extension: Boundaries of the Basin and Range Province as Natural Laboratories for studying Tectonic and Structural Processes" (oral session): Geological Society of America Annual Meeting, October 16-19, Salt Lake City, UT.

## PROFESSIONAL AFFILIATIONS

Geological Society of America, Member since 1998.  
 American Geophysical Union, Member since 1998.

## INVITED LECTURES

- 2010 Invited speaker, Penrose Conference, August 16-20, Bridgeport, CA
- 2009 Invited speaker, Stanford University graduate seminar
- 2009 Invited speaker, Peninsula Geological Society
- 2009 Invited speaker, “Mackay Geology Seminar,” University of Nevada, Reno
- 2008 Invited lecture, Stanford University (Western US tectonics class)
- 2008 Invited speaker, USGS, Denver, CO
- 2008 Invited speaker, USGS, Reston, VA
- 2007 Invited speaker, USGS Mineral Resources Program Meeting, Denver, CO
- 2006 Invited speaker, NSF High Lava Plains Workshop, Sunriver, Oregon
- 2006 Invited speaker, University of California, Santa Cruz
- 2006 Invited lecture, Stanford University (graduate-level geochronology class)
- 2006 Invited speaker, Idaho State University
- 2006 Invited speaker, USGS Earthquake Hazards Team seminar series
- 2003 Invited Speaker, USGS Earthquake Hazards Team seminar series

## HONORS AND AWARDS

- 2008, 2009 Performance Awards, USGS Mineral Resources Team (2)
- 2003-2004 Stanford-USGS Fellowship in Earth Sciences
- 2003 Outstanding Student Paper Award, AGU Tectonophysics Section
- 2000-2003 Richard H. Jahns Fellowship in Field Geology (3)
- 2000-2004 Stanford University Shell Foundation Grants (3)
- 2000, 2002 Stanford University McGee Foundation Grants (2)
- 2000, 2002 GSA Graduate Research Grants (2 total)
- 1998 Carleton College, Graduated *magna cum laude*
- 1998 Carleton College, Distinction in major; Distinction on senior thesis
- 1998 Carleton College, Inducted to Phi Beta Kappa & Sigma Xi

## PUBLICATIONS

- Colgan, J.P.**, Egger, A.E., John, D.A., Cousens, B., Fleck, R.J., and Henry, C.D., 2011, Oligocene and Miocene arc volcanism in northeastern California: Evidence for post-Eocene segmentation of the subducting Farallon plate: *Geosphere*, v. 7, p. 733–755, doi:10.1130/GES00650.1.
- Henry, C.D., McGrew, A.J., **Colgan, J.P.**, Snoke, A.W., and Brueseke, M.E., 2011, Timing, distribution, amount, and style of Cenozoic extension in the northern Great Basin, *in* Lee, J., and Evans, J.P., eds., *Geologic Field Trips to the Basin and Range, Rocky Mountains, Snake River Plain, and Terranes of the U.S. Cordillera: Geological Society of America Field Guide 21*, p. 27–66, doi:10.1130/2011.0021(02).
- John, D.A., Rockwell, B.W., Henry, C.D., and **Colgan, J.P.**, 2011, Hydrothermal alteration of the late Eocene Caetano ash-flow caldera, north-central Nevada: A field and ASTER remote sensing study: *Proceedings of the Geological Society of Nevada 2010 Symposium*, Reno, Nevada, May 14–22, 2010, p. 1055–1083.
- Henry, C.D., and **Colgan, J.P.**, 2011, The regional structural setting of the 2008 Wells earthquake and Town Creek Flat basin—Implications for the Wells earthquake fault and adjacent structures, *in* dePolo C.M., and LaPointe, D.D., eds., *A compendium of earthquake-related investigations prepared by the University of Nevada, Reno: Nevada Bureau of Mines and Geology Special Publication 36*, p. 53–64.
- Colgan, J.P.**, Howard, K.A., Fleck R.J., and Wooden J.L., 2010, Rapid middle Miocene extension and unroofing of the southern Ruby Mountains, Nevada: *Tectonics*, v. 29, doi:10.1029/2009TC002655.
- Colgan, J.P.**, Wyld, S.J., and Wright, J., 2010, Geologic map of the Vicksburg Canyon 7.5’ quadrangle, Humboldt County, Nevada: Nevada Bureau of Mines and Geology, Map M169.

- Egger, A.E., **Colgan, J.P.**, and York, C., 2009, Provenance and palaeogeographic implications of Eocene–Oligocene sedimentary rocks in the northwestern Basin and Range: *International Geology Review*, v. 51(9-11), p. 900–911, doi: 10.1080/00206810902949829.
- Colgan, J.P.**, and Henry, C.D., 2009, Rapid middle Miocene collapse of the Mesozoic orogenic plateau in north-central Nevada: *International Geology Review*, v. 51(9-11), p. 920–961, doi: 10.1080/00206810903056731.
- Lerch, D.W., Klemperer, S.L., Egger, A.E., **Colgan, J.P.**, and Miller, E.L., 2009, The northwestern margin of the Basin and Range Province, part 1: Reflection profiling of the moderate-angle (35°) Surprise Valley Fault: *Tectonophysics*, v. 488(1-4), p. 143–149, doi:10.1016/j.tecto.2009.05.028.
- Fosdick, J.C., and **Colgan, J.P.**, 2008, Miocene extension in the East Range, Nevada: A two-stage history of normal faulting in the northern Basin and Range: *Geological Society of America Bulletin*, v. 120(9-10), p. 1198–1213. doi:10.1130/B26201.1.
- Colgan, J.P.**, Shuster, D.L., and Reiners, P.W., 2008, Two-phase Neogene extension of the northwestern Basin and Range recorded in a single thermochronology sample: *Geology*, v. 36(8), p. 631–634, doi:10.1130/G24897A.1.
- Colgan, J.P.**, John, D.A., Henry, C.D., and Fleck, R.J., 2008, Large-magnitude Miocene extension of the Eocene Caetano caldera, Shoshone and Toiyabe Ranges, Nevada: *Geosphere*, v. 4(1), p. 107–130. doi:10.1130/GES00115.1.
- John, D.A., Henry, C.D., and **Colgan, J.P.**, 2008, Magmatic and tectonic evolution of the Caetano caldera, north-central Nevada: A tilted mid-Tertiary eruptive center and source of the Caetano Tuff: *Geosphere*, v. 4(1), p. 75–106. doi:10.1130/GES00116.1.
- Lerch, D.W., Miller, E.L., McWilliams, M.O., and **Colgan, J.P.**, 2008, Tectonic and magmatic evolution of the northwestern Basin and Range and its transition to unextended volcanic plateaus: *Black Rock Range, Nevada: Geological Society of America Bulletin*, v. 120 (3-4), p. 300–311. doi:10.1130/B26151.1.
- Mattinson, C.G., **Colgan, J.P.**, Metcalf, J.R., Miller E.L., and Wooden, J.L., 2007, Late Cretaceous to Paleocene metamorphism and magmatism in the Funeral Mountains metamorphic core complex, Death Valley, California, in Cloos, M., Carlson, W.D., Gilbert, M.C., Liou, J.G., and Sorensen, S.S., eds., *Convergent Margin Terranes and Associated Regions: A Tribute to W.G. Ernst: Geological Society of America Special Paper 419*, p. 205–223, doi:10.1130/2006.2419(11).
- Lerch, D.W., Klemperer, S.L., Glen, J.M.G., Ponce, D.A., Miller, E.L., and **Colgan, J.P.**, 2007, Crustal structure of the northwestern Basin and Range Province and its transition to unextended volcanic plateaus: *Geochemistry, Geophysics, and Geosystems*, v. 8, doi:10.1029/2006GC001429.
- Colgan, J.P.**, Dumitru, T.A., Reiners, P.W., Wooden, J.L., and Miller, E.L., 2006, Cenozoic tectonic evolution of the Basin and Range Province in northwestern Nevada: *American Journal of Science*, v. 306(8), p. 616–654.
- Colgan, J.P.**, Dumitru, T.A., McWilliams, M.O., and Miller, E.L., 2006, Timing of Cenozoic volcanism and Basin and Range extension in northwestern Nevada: new constraints from the northern Pine Forest Range: *Geological Society of America Bulletin*, v. 118(1-2), p. 126–139, doi:10.1130/B25681.1.
- Colgan, J.P.**, Dumitru, T.A., and Miller, E.L., 2004, Diachroneity of Basin and Range faulting and Yellowstone hotspot volcanism in northwestern Nevada: *Geology*, v. 32(2), p. 121–124, doi:10.1130/G20037.1.
- Brabb, E.E., **Colgan, J.P.**, and Best, T.C., 1999 Map showing inventory and regional susceptibility for Holocene debris flows and related fast-moving landslides in the conterminous United States: U.S. Geological Survey Miscellaneous Field Studies Map MF-2329, scale 1:2,500,000.

## ABSTRACTS

### 2011

**Colgan, J.P.**, Henry, C.D., and John, D.A., 2011, Geologic map of the Caetano Caldera, north-central Nevada: One of the world's best-exposed and most informative calderas: AGU, December 2011.

**Colgan, J.P.**, 2011, Two-stage model for exhumation of the Ruby Mountains - East Humboldt metamorphic core complex, northeastern Nevada: Geological Society of America Abstracts with Programs, v. 43, no. 4, p. 4.

### 2010

**Colgan, J.P.**, Henry, C.D., and John, D.A., 2010, Rapid middle Miocene Basin and Range extension in north-central Nevada: Great Basin Evolution and Metallogeny, Program with Abstracts, Geological Society of Nevada Symposium 2010, Reno/Sparks, Nevada, May 2010, p. 40.

John, D.A., Rockwell, B.W., Henry, C.D., and **Colgan, J.P.**, 2010, Hydrothermal alteration of the late Eocene Caetano ash-flow caldera, north-central Nevada: A field and ASTER remote sensing study: Great Basin Evolution and Metallogeny, Program with Abstracts, Geological Society of Nevada Symposium 2010, Reno/Sparks, Nevada, May 2010, p. 56.

**Colgan, J.P.**, and McPhee, D.K., 2010, Crustal structure adjacent to the San Andreas Fault from Cholame Valley to the northern Carrizo Plain, central California: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 79.

Langenheim, V.E., Jachens, R.C., Graymer, R.W., Wentworth, C.M., **Colgan, J.P.**, and Stanley, R.G., 2010, Implications of cumulative offsets along the San Gregorio-Hosgri Fault, California: Why the Santa Maria Basin Matters: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 81.

Graymer, R.W., Langenheim, V.E., Rosenberg, L.I., **Colgan, J.P.**, and Roberts, M.A., 2010, New insights into the tectonics of the central California coast ranges from cross-sections based on digital geologic mapping and potential-field geophysics: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 82.

### 2009

**Colgan, J.P.**, 2009, Timing and structural style of Cenozoic extension in north-central Nevada: Northwest Mining Association Annual Meeting, December 2009, Reno Nevada.

John, D.A., **Colgan, J.P.**, Henry, C.D., and Wooden, J.L., 2009, Prolonged Eocene magmatism and assembly of the Caetano caldera, Cortez area, Nevada: Inferences from SHRIMP U-Pb zircon dating: AGU, December 2009, Abstract no. V41B-2187.

Henry, C.D., Cousense, B., John, D.A., and **Colgan, J.P.**, 2009, Reestablishment of the ancestral Cascades arc in western Nevada and eastern California by rollback of the shallow Farallon slab: AGU, December 2009, Abstract no. V41B-2175.

**Colgan, J.P.**, Henry, C.D., and John, D.A., 2009, Post-Eocene extension in the northern Shoshone Range, Nevada: Geological Society of America Abstracts with Programs, v. 41, p. 129.

Egger, A.E., and **Colgan, J.P.**, 2009, Evolution of the northwestern margin of the Basin and Range: Insights from geologic mapping in northeastern California: Geological Society of America Abstracts with Programs, v. 41, p. 296.

Henry, C.D., **Colgan, J.P.**, John, D.A., Cousens, B., and Faulds, J.E., 2009, The evolution and tectonic setting of the Eocene-Miocene ignimbrite flare-up of the Great Basin, Nevada and Utah: Geological Society of America Abstracts with Programs, v. 41, p. 643.

### 2008

**Colgan, J.P.**, Egger, A.E., and John, D.A., 2008, Oligocene and Miocene arc volcanism in northeastern California: AGU, December 2008, Abstract no. V31B-2131.

John, D.A., Henry, C.D., and **Colgan, J.P.**, 2008, The Caetano caldera, Nevada: 5 km thickness of intracaldera rhyolite ignimbrite and co-magmatic batholith: AGU, December 2008, Abstract no. V21C-2118.

Noguera, M., Stedman, C., First, E., Lord, E., Parrinello, A., Wright, J.E., Urbani, F., and **Colgan, J.P.**, 2008, Detrital zircon geochronology of Paleocene/Eocene turbidites from Venezuela and offshore islands: Implications for Late Cretaceous subduction initiation along the Leeward Antilles and Aves Ridge: Geological Society of America Abstracts with Programs, Fall 2008, Abstract no. 155–4.

## 2007

**Colgan, J.P.**, Shuster, D.L., and Reiners, P.W., 2007, Two-phase Neogene extension of the northwestern Basin and Range deduced from a single thermochronology sample: AGU, December 2007, Abstract no. V33E-06.

Egger, A.E., Lerch, D., **Colgan, J.P.**, Klemperer, S.L., and Miller, E.L., 2007, Insight into the evolution of a major Basin and Range normal fault through combined geological and seismological investigation: Geological Society of America Abstracts with Programs, Fall 2007, Abstract no. 15-2.

Klemperer, S.L., Miller, E.L., Gashawbeza, E., Lerch, D., **Colgan, J.P.**, and Glen, J., 2007, The northwestern boundary of the Basin and Range province: insights and surprises regarding its evolution based on Earthscope refraction, teleseismic, potential field and geologic data: Geological Society of America Abstracts with Programs, Fall 2007, Abstract no. 229-3.

## 2006

**Colgan, J.P.**, and Metcalf, J.R., 2006, Apatite fission-track and (U-Th)/He dating of slip on the Crescent Fault, Nevada: AGU, December 2006, Abstract no. T11D-0466.

Klemperer, S.L., Bruhn, R.L., Miller, E.L., Lowry, A.R., Smith, R.B., Lerch, D.W., Gashawbeza, E., **Colgan, J.P.**, and Keranen, K., 2006, The Basin and Range Province (BRP); a key GeoFrame transect in progress: AGU, December 2006, Abstract no. T43C-1650.

**Colgan, J.P.**, and Metcalf, J.R., 2006, Rapid middle Miocene unroofing of the southern Ruby Mountains, Nevada: Geological Society of America Abstracts with Programs, Fall 2006.

Fosdick, J.C., **Colgan, J.P.**, Metcalf, J.R., Dumitru, T.A., and Miller, E.L., 2006, Multiple episodes of extension across the East Range, Nevada: A Tertiary extensional transition zone in the northern Basin and Range Province: Geological Society of America Abstracts with Programs, Fall 2006.

## 2005

**Colgan, J.P.**, Dumitru, T.A., and Miller, E.L., 2005, Late Miocene development of the northwestern margin of the Basin and Range Province in northwestern Nevada and northeastern California: Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 203.

Lerch, D., **Colgan, J.P.**, Miller, E.L., and McWilliams, M.O., 2005, Tectonic and magmatic evolution of the northwestern Basin and Range transition zone: Mapping and geochronology from the Black Rock Range, NV: Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 70.

Miller, E.L., **Colgan, J.P.**, Surpless, B., Reidel-Bash, S., Strickland, A., Egger, A.E., and Benoit, D., 2005, Drill-core data from the Warner Range and Surprise Valley: Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 203.

Fosdick, J., Egger, A.E., **Colgan, J.P.**, Surpless, B., Miller, E.L., and Lerch, D., 2005, Cenozoic evolution of the northwestern boundary of the Basin and Range: Geologic constraints from the Warner Range and Surprise Valley Region: Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 70.

**Colgan, J.P.**, Dumitru, T.A., and Reiners, P.W., 2005, Cenozoic structural and thermal evolution of northwestern Nevada: insights from apatite fission-track and (U-Th)/He thermochronology: Geological Society of Nevada Symposium, May 14-18, 2005, Reno, Nevada, Program with Abstracts, p. 35.

## 2004

**Colgan, J.P.**, Lerch, D.L., Gashawbeza, E.M., Wilson, C.K., Klemperer, S.L., and Miller, E.L., 2004, Preliminary results of seismic refraction/reflection experiment in northwestern Nevada and northeastern California: Eos Trans. AGU, 85 (47), Fall Meet. Suppl., Abstract S13B-1045.

Toro, J., Prokopyev, A., **Colgan, J.P.**, Dumitru, T.A., and Miller, E.L., 2004, Apatite fission-track thermochronology of the southern Verkhoyansk fold-thrust belt, Russia: *Eos Trans. AGU*, 85 (47), Fall Meet. Suppl., Abstract GP44A-01.

**Colgan, J.P.**, Dumitru, T.A., and Reiners, P.R., 2004, Estimating normal fault slip rates over a 10 million-year interval using apatite fission-track and U-Th/He thermochronology: *Geological Society of America Abstracts with Programs*, v. 36., no. 5, p. 427.

Lerch, D.W., McWilliams, M.O., Miller, E.L., and **Colgan, J.P.**, 2004, Structure and magmatic evolution of the northern Black Rock Range, Nevada: preparation for a wide-angle refraction/reflection survey: *Geological Society of America Abstracts with Programs*, v. 36, no. 4, p. 37.

Whitehill, C.S., Miller, E.L., **Colgan, J.P.**, Dumitru, T.A., Lerch, D.L., and McWilliams, M.O., 2004, Extent, style and age of Basin and Range faulting east of Pyramid Lake: *Geological Society of America Abstracts with Programs*, v. 36, no. 4, p. 37.

Buetner, E.C., Hauge, T.A., **Colgan, J.P.**, and Oesleby, T.W., 2004, Two-stage emplacement of the South Fork–Heart Mountain fault system: *Geological Society of America Abstracts with Programs* v. 36, no. 4, p. 34.

### 2003

**Colgan, J.P.**, Dumitru, T.A., Lerch, D., Miller, E.L., and Whitehill, C.S., 2003, Extensional domains in the Basin and Range Province, *Eos Trans. AGU*, 84 (46), Fall Meet. Suppl., Abstract T31E-0876.

**Colgan, J.P.**, and Dumitru, T.A., 2003, Reconstructing Late Miocene Basin and Range extension along the oldest part of the Yellowstone hot spot in northwestern Nevada, *Geological Society of America Abstracts with Programs*, v. 35, no. 6, p. 346.

Mattinson, C.G., **Colgan, J.P.**, Metcalf, J., Jones, R.E., Lerch, D., McWilliams, M.O., Miller, E.L., Whitehill, C., and Wooden, J.L., 2003, Metamorphism, Partial Melting, and Deformation in the Funeral Mountains Metamorphic Core Complex, Death Valley, California, *Geological Society of America Abstracts with Programs*, v. 35, no. 6, p. 640.

### 2002–1998

Metcalf, J., Booth, A.L., **Colgan, J.P.**, Hourigan, J.K., Krylov, K., Mattinson, C.G., McWilliams, M.O., Miller, E.L., Scherer, H., and Wooden, J.L., 2002, New constraints on the deformational and metamorphic history of the Funeral Mountains metamorphic core complex, Death Valley, California, *Geological Society of America Abstracts with Programs*, v. 34, no. 6, Abstract no. 45083.

**Colgan, J.P.**, 2000, Timing and magnitude of Cenozoic Basin and Range extension in northwestern Nevada, *Geological Society of America Abstracts with Programs*, v. 32, no. 7, p. 44

**Colgan, J.P.** and Beutner, E.C., 1998, Heart Mountain faulting and the emplacement of intrusive rocks at Painter Gulch, near White Mountain, northwest Wyoming: *Geological Society of America Abstracts with Programs*, vol.30, no.6, p. 6.